



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

J & J Reference: DEP 486

MMB Docket No. 1671-0099

Application of: **Lester et al.**

Serial No.: **09/678,032**

Filed: **October 3, 2000**

Title: **Actabular Cup and Reamer Assembly and Associated Method for Securing the Cup to an Acetabulum**

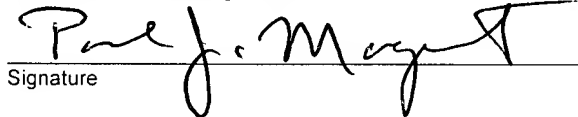
Group Art Unit: **3738**

Examiner: **K. Landrem**

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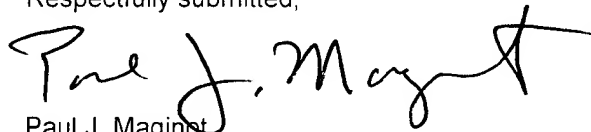
LETTER

Sir:

Enclosed are an original and three (3) copies of an Appeal Brief in connection with the above-identified patent application. The Notice of Appeal was filed on December 21, 2004, and the Appeal Brief was due two months from this date (i.e. 02/21/05). Since the due date of filing the Appeal Brief fell on a Federal holiday, President's Day, Monday, February 21, 2005, the Appeal Brief is being timely filed on Tuesday, February 22, 2005. Also enclosed herewith is a check for \$500.00 to cover the fee required under 37 CFR 1.17(c).

Additionally, please provide any extension of time which may be necessary and charge any fees which may be due to Account No. 13-0014, but not to include any payment of issue fees.

Respectfully submitted,



Paul J. Maginot
Attorney for Appellants
Registration No. 34,984

February 22, 2005
Maginot, Moore & Beck LLP
Bank One Center/Tower
111 Monument Circle, Suite 3000
Indianapolis, Indiana 46204-5115
(317) 638-2922



ORIGINAL

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MMB Docket No. **1671-0099**

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Application of: **Lester et al.**

Group Art Unit: **3738**

Serial No. **09/678,032**

Examiner: **K. Landrem**

Filed: **October 3, 2000**

For: **Acetabular Cup and Reamer Assembly and Associated Method for
Securing the Cup to an Acetabulum**

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February 22, 2005

Date of Signature

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal under 37 CFR § 1.191 to the Board of Patent Appeals
and Interferences of the United States Patent and Trademark Office from the

final rejection of the claims 31-44 of the above-identified patent application.

These claims were indicated as finally rejected in an Office Action dated August 24, 2004. Three copies of the brief are filed herewith, together with the \$500.00 fee required under 37 CFR § 1.17(c). Also, please provide any extensions of time that may be necessary and charge any fees that may be due to Deposit Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

DePuy Orthopaedics, Inc. of Warsaw, Indiana is the assignee of this patent application, and the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application (serial no. 09/678,032).

(3) STATUS OF CLAIMS

Claims 31-44 are pending in the application.

Claims 31-44 are finally rejected.

Claims 31-44 are being appealed.

Each of claims 31-44 is shown in the Claim Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellants have filed no amendments subsequent to the final rejection contained in the Office Action mailed August 24, 2004.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' invention relates to a prosthetic hip and reamer assembly. The assembly includes a reamer 50 having a cutting head 54 configured to ream a hemispherically-shaped cavity 52 into an acetabulum 16 of a patient. (See, e.g., Appellants' specification at page 13, line 13 through page 14, line 2, and Figs. 3-4.) The assembly further includes an acetabular cup 12 configured to be press fit into the cavity 52. (See, e.g., Appellants' specification at page 15, lines 6-8, and Fig. 5.) The acetabular cup 12 includes a cup body 24 defining an apex portion 28, an upper rim 30 and an outer surface extending therebetween. (See, e.g., Appellants' specification at page 11, lines 10-16, and Figs. 1-2.) An imaginary hemisphere 32 defines a great circle 36 lying in a first plane P1. (See, e.g., Appellants' specification at page 11, lines 17-19, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the upper rim 30 lies in a second plane P2 that is spaced apart from the first plane P1 by a distance D, wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$. (See, e.g., Appellants' specification at page 11, line 16 through page 12, line 7, and page 12, line 17 through page 13, line 2, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is

further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the outer surface of the cup body 24 lies coincident with the imaginary hemisphere 32 from the apex portion 28 to the second plane P2. (See, e.g., Appellants' specification at page 12, line 17 through page 13, line 12, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003, and further page 11, line 16 through page 12, line 16.)

Another aspect of Appellants' invention relates to a method of securing an acetabular cup to an acetabulum. In particular, the method includes reaming a hemispherically-shaped cavity 52 into an acetabulum 16 of a patient. (See, e.g., Appellants' specification at page 13, line 13 through page 14, line 2, and Figs. 3-4.) The method further includes press fitting the acetabular cup 12 into the cavity 52. (See, e.g., Appellants' specification at page 15, lines 6-8, and Fig. 5.) The particular configuration of the cup 12 that is press fit into the cavity 52 is disclosed in the paragraph immediately above.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 31-32, 36-39, and 44 stand rejected under 35 U.S.C. § 102 as being anticipated by Amstutz et al. (U.S. Patent No. 4,123,806).

Claims 33-35 and 40-43 stand rejected under 35 U.S.C. § 103 as being unpatentable over Amstutz et al. (U.S. Patent No. 4,123,806) in view of Pratt et al. (U.S. Patent No. 5,888,205).

(7) ARGUMENT

Rejection under 35 U.S.C. § 102 as being anticipated by Amstutz et al. (U.S. Patent No. 4,123,806)

Claims 31-32, 36-39, and 44 are Not Anticipated by Amstutz et al.

Discussion Re: Patentability of Claim 31

Claim 31

Among the various limitations of claim 31, the following is recited:

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D,

wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

In an attempt to identify elements in Amstutz that meet these claimed limitations, the following was stated in the August 24, 2004 Final Office Action at page 2, lines 11-19:

"Although Amstutz does not specifically recite a reamer having a cutting head configured to ream a hemispherically shaped cavity, *it is inherent that the hemispherical cup 18 would require a hemispherical reamer* (reamer capable of creating a hemispherical shape) (7:6-10). Figures 3 and 5 show the plane (P1) in which the shell forms a 'great circle'. Focusing back on Figure 6, a second plane (P2) that defines an imaginary hemisphere is shown. The cup 18 is can be precisely hemispherical or ... may be 1 or 2 millimeters less than a hemisphere. This shape would then render a distance (D) between the 'great circle' and the imaginary hemisphere that falls within the applicants claimed range (6:5-8)." (Emphasis added.)

If, however, as it is alleged above, it is inherent that the hemispherical cup 18 would require a hemispherical reamer, it would appear to logically follow that it

is also inherent that a 1 or 2 millimeter less than hemispherical cup would require a 1 or 2 millimeter less than hemispherical reamer. This being the case, in either of these instances, the claim limitations of claim 1 identified above are not met by Amstutz. Indeed, in the first case, the use of a hemispherical cup and a hemispherical reamer would not meet the claim limitations identified above including the limitation that "said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D." Moreover, in the second case, the use of a 1 or 2 millimeter less than hemispherical cup and a 1 or 2 millimeter less than hemispherical reamer also would not meet the claim limitations identified above including the limitation that "said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D." Indeed, in both of these cases in Amstutz, the first plane P1 would lie coincident with the second plane P2. It is axiomatic that anticipation of a claim under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Thus, claim 31 is not anticipated by Amstutz.

Discussion Re: Patentability of Claims 32, 36, and 37

Each of claims 32, 36, and 37 depends directly from claim 31. As a result, each of claims 32, 36, and 37 is allowable for, at least, the reasons hereinbefore discussed with regard to claim 31.

Discussion Re: Patentability of Claim 38

Claim 38 reads as follows:

38. A method of securing an acetabular cup to an acetabulum, comprising the steps of:
reaming a hemispherically-shaped cavity into said acetabulum; and
press fitting said acetabular cup into said cavity, wherein (i) said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween, (ii) an imaginary hemisphere defines a great circle lying in a first plane P1, (iii) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D, (iii) $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and (iv) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

According to the inventive method of claim 38, a *particularly configured* cavity (i.e. hemispherically-shaped) is reamed into the acetabulum. Further according to the inventive method of claim 38, a *particularly configured* acetabular cup (i.e. a cup possessing all the characteristics of recited in claim 38) is press fit into the above-described particularly configured cavity.

Nowhere in Amstutz is it disclosed that when a hemispherically-shaped cavity is reamed in the acetabulum, an acetabular cup that is a millimeter or two less than hemispherical in extent is press fit in that cavity. Rather, one skilled in the art reading Amstutz would presumably understand as follows: (i) if a hemispherical cup 18 is to be implanted in an acetabulum then a hemispherical

cavity would be reamed in the acetabulum to accommodate that particularly configured cup, and (ii) if a 1 or 2 millimeter less than hemispherical cup is to be implanted in the acetabulum then a 1 or 2 millimeter less than hemispherical cavity would be reamed in the acetabulum to accommodate that particularly configured cup. Amstutz simply does not disclose mismatching the sizes (i.e. configurations) of the cavity and the cup.

It is axiomatic that anticipation of a claim under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Thus, claim 38 is not anticipated by Amstutz.

Discussion Re: Patentability of Claims 39 and 44

Each of claims 39 and 44 depends directly from claim 38. As a result, each of claims 39 and 44 is allowable for, at least, the reasons hereinbefore discussed with regard to claim 38.

Rejection under 35 U.S.C. § 103 over Amstutz et al. (U.S. Patent No. 4,123,806) in view of Pratt et al. (U.S. Patent No. 5,888,205)

Claims 33-35 and 40-43 are Not Unpatentable Over Amstutz et al. in view of Pratt et al. (U.S. Patent No. 5,888,205)

Discussion Re: Patentability of Claims 33-35

Each of claims 33-35 depends directly or indirectly from claim 31. As a result, each of claims 33-35 is allowable for, at least, the reasons hereinbefore discussed with regard to claim 31.

Discussion Re: Patentability of Claims 40-43

Each of claims 40-43 depends directly or indirectly from claim 38. As a result, each of claims 40-43 is allowable for, at least, the reasons hereinbefore discussed with regard to claim 38.

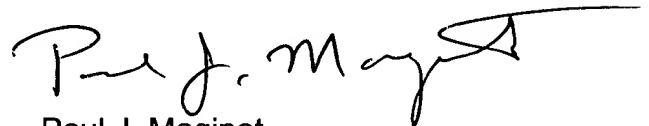
(8) CONCLUSION

Claims 31-32, 36-39, and 44 are not anticipated under 35 U.S.C. § 102 by Amstutz et al. (U.S. Patent No. 4,123,806).

Claims 33-35 and 40-43 are not unpatentable under 35 U.S.C. § 103 over Amstutz et al. (U.S. Patent No. 4,123,806) in view of Pratt et al. (U.S. Patent No. 5,888,205).

Respectfully submitted,

MAGINOT, MOORE & BECK

A handwritten signature in black ink, appearing to read "Paul J. Maginot", with a stylized flourish at the end.

Paul J. Maginot
Attorney for Appellants
Registration No. 34,984

February 22, 2005

Maginot, Moore & Beck
Bank One Center/Tower
111 Monument Circle, Suite 3000
Indianapolis, Indiana 46204-5115
Telephone (317) 638-2922
Facsimile (317) 638-2139

(9) CLAIM APPENDIX

31. A prosthetic hip and reamer assembly, comprising:

a reamer having a cutting head configured to ream a hemispherically-shaped cavity into an acetabulum of a patient; and

an acetabular cup configured to be press fit into said cavity, said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween,

wherein an imaginary hemisphere defines a great circle lying in a first plane P1,

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D,

wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

32. The assembly of claim 31, wherein D is approximately one (1) millimeter.

33. The assembly of claim 31, wherein:
said cutting head of said reamer is substantially hemispherically-shaped
and possesses a first radius,
said imaginary hemisphere possesses a second radius, and
said second radius is greater than said first radius.

34. The assembly of claim 33, wherein said second radius is between one-half ($\frac{1}{2}$) and one and one-half ($1\frac{1}{2}$) millimeters greater than said first radius.

35. The assembly of claim 33, wherein said second radius is approximately two (2) millimeters greater than said first radius.

36. The assembly of claim 31, further comprising a bearing insert,
wherein:
said bearing insert is configured to be received within said acetabular cup,
and
said bearing insert is further configured to mate with a head portion of a
femur.

37. The assembly of claim 31, wherein said upper rim of said acetabular
cup lies substantially flush with a surface of said acetabulum after said
acetabular cup is press fit into said cavity reamed into said acetabulum.

38. A method of securing an acetabular cup to an acetabulum, comprising the steps of:

reaming a hemispherically-shaped cavity into said acetabulum; and
press fitting said acetabular cup into said cavity, wherein (i) said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween, (ii) an imaginary hemisphere defines a great circle lying in a first plane P1, (iii) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D, (iii) $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and (iv) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

39. The method of claim 38, wherein D is approximately one (1) millimeter.

40. The method of claim 38, wherein:

said reaming step includes the step of reaming said hemispherically-shaped cavity into said acetabulum with a reamer having a hemispherically-shaped cutting head that possesses a first radius,

said reaming step further includes the step of reaming said acetabulum such that said cavity possesses said first radius,

said imaginary hemisphere possesses a second radius, and

said second radius is greater than said first radius.

41. The method of claim 40, wherein said second radius is between one-half ($\frac{1}{2}$) and one and one-half ($1\frac{1}{2}$) millimeters greater than said first radius.

42. The method of claim 40, wherein said second radius is approximately two (2) millimeters greater than said first radius.

43. The method of claim 40, further comprising the step of positioning a bearing insert into said acetabular cup, wherein said bearing insert is configured to mate with a head portion of a femur.

44. The method of claim 38, wherein said press fitting step includes the step of advancing said acetabular cup into said cavity reamed in said acetabulum until said upper rim is substantially flush with a surface of said acetabulum.